

Notice of Allowability

Application No.

10/821,703

Examiner

Hoai-An D. Nguyen

Applicant(s)

PARKER, MICHAEL T.

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the telephonic interview on 11/08/2006.
2. ☒ The allowed claim(s) is/are 1, 3-7, 9, 11 and 13-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Art Unit: 2858

DETAILED ACTION

1. Receipt is acknowledged of the Amendment filed on September 25, 2006. Claims 1-16 are pending in the application.

Election/Restrictions

2. Upon further consideration, the restriction requirement, as set forth in the Office action mailed on November 29, 2005, is hereby withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Jaye G. Heybl (Reg. # 42,661) at 805-373-0060 on November 8, 2006. The purpose of the examiner's amendment was to distinctly point out the invention in order to place the application in condition for allowance.

4. The application has been amended as follows:

IN THE CLAIMS:

Claims 2, 8, 10 and 12 have been cancelled.

In claim 1:

Art Unit: 2858

- Line 17: “and” has been deleted.
- Line 20: “.” has been replaced with -- ; and --.
- New line: -- activating an arcing alarm if a dangerous arcing signal is found. --
has been inserted as new line.

In claim 7:

- Line 14: “;” has been replaced with -- , wherein said amplitude adjusting
comprises calculating an adjustment factor based on an averaging of at least a
portion of said present cycle and an averaging of at least a portion of either said
past or future cycles; --.
- Line 16: “and” has been deleted.
- Line 18: “.” has been replaced with -- ; and --.
- New line: -- generating an alarm if said analyzing said arc signal artifact
waveform determines that a dangerous arcing condition exists. -- has been
inserted as new line.

In claim 9:

- Line 1: “8” has been replaced with -- 7 --.

In claim 11:

- Line 14: “and” has been deleted.
- Line 17: “.” has been replaced with -- ; and --.
- New line: -- an alarm that is activated by said arc monitoring circuit when a
dangerous arc signal is found. -- has been inserted as new line.

Allowable Subject Matter

5. Claims 1, 3-7, 9, 11 and 13-16 are allowed.
6. The following is an examiner's statement of reasons for allowance:

With respect to claim 1, the prior art does not teach, suggest or render obvious the claimed method for detecting arcing conditions in an alternating current power system having an AC power signal that is decaying or increasing in amplitude in combination as claimed including:

- Calculating an adjustment factor based on said averagings, said adjustment factor having a value to compensate for differences between the first and second cycle portions;
- Applying said adjustment factor to said second cycle portion to form an adjusted second cycle portion; and
- Comparing said first cycle portion to said adjusted second cycle portion to determine if there is an arcing signal on said AC power signal.

With respect to claims 3-6, these claims are allowed at least by virtue of their dependency from the base claim 1.

With respect to claim 7, the prior art does not teach, suggest or render obvious the claimed method for detecting electrical arcs in an electrical system having a power signal with a periodically alternating characteristic while reducing or preventing false alarms from decaying/increasing power signal amplitudes in combination as claimed including:

- Adjusting the amplitude of either said past or future cycles to adjust for amplitude decay or increase of said power supply signal, wherein said amplitude adjusting

Art Unit: 2858

comprises calculating an adjustment factor based on an averaging of at least a portion of said present cycle and an averaging of at least a portion of either said past or future cycles;

- Subtracting the present cycle from either said past or future cycle to form an arc signal artifact waveform; and
- Analyzing said arc signal artifact waveform to determine if an arcing condition exists.

With respect to claim 9, this claim is allowed at least by virtue of their dependency from the base claim 1.

With respect to claim 11, the prior art does not teach, suggest or render obvious the claimed system for detecting electrical arcs by monitoring an alternating current power supply in combination as claimed including:

- Causal/non-causal logic which compares said present version with said past and future versions to determine which will be used as an arc monitoring version to compare said present version for arc monitoring;
- A dynamic processing module to compensate for any amplitude differences between said present version and said arc monitoring version; and
- An arc monitoring circuit to analyze said present version and adjusted arc monitoring version to determine if an arc signal is present.

With respect to claims 13-16, these claims are allowed at least by virtue of their dependency from the base claim 11.

Art Unit: 2858

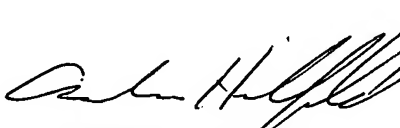
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai-An D. Nguyen whose telephone number is 571-272-2170. The examiner can normally be reached on M-F (8:00 - 5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Hoai-An D. Nguyen
Examiner
Art Unit 2858
HADN